

Abstract

Each of the metal nano-particles present in a dispersion, which comprises at least one metal selected from the group consisting of precious metals and transition metals or an alloy of
5 at least two metals selected from the foregoing metals, comprises a metal particle in which an organic metal compound of a fatty acid and/or an amine-metal complex is adhered to the periphery of the metal particle. This organic metal compound and the amine-metal complex are admixed together in a solvent and then the resulting mixture is subjected to a reducing treatment to thus form a dispersion containing metal nano-particles in a concentration of not less
10 than 5% by mass and not more than 90% by mass. The resulting dispersion is applied onto the surface of a base material, followed by drying the applied layer of the dispersion and then firing the dried layer of the dispersion at a low temperature to thus form a thin metallic wire or a metal film having conductivity.